

XI.—On some new Species of Spiders of the Genus *Cærostris* from Madagascar. By ARTHUR G. BUTLER, F.L.S., F.Z.S., &c., Assistant-Keeper, Zoological Department, British Museum.

[Plate VI.]

IN a large collection of Spiders recently obtained by the Rev. Deans Cowan in Madagascar I detected an unusual number of forms of this interesting genus of Gasteracanthidæ. In addition to female specimens of *C. mitralis*, *avernalis*, and *stygianus**, of which figures have been published, I found females of a species allied to *C. tuberculosa* of Vinson and *sexcuspidata* of Fabricius; also the female of a fine species apparently allied to *C. Keyserlingii* of Caffraria, a species near to *C. Wahlbergii* in both sexes, with one or two others of less interest.

1. *Cærostris extrusa*, sp. nov. (Pl. VI. figs. 3, 3 a, 3 b.)

♀. Cephalothorax dark piceous, rather longer than broad, laterally constricted and dorsally depressed behind the caput; the latter twice as broad as long, with six tubercles, two on each side and two at the back; central oculiferous tubercle rather prominent, the eyes upon it larger than those of the lateral tubercles, the anterior pair decidedly nearer together than the posterior, the four eyes together forming a trapezium; lateral eyes placed obliquely, the anterior ones being larger than the posterior. Abdomen chocolate-brown above, with a broad, central, longitudinal, creamy yellowish band, divided in its basal half by a more or less defined longitudinal brown stripe, having parallel decreasing pinnate processes on both sides, the anterior and ventral surfaces yellowish testaceous; the anterior and lateral surfaces are also impressed with regular parallel lines on which are black dots; in form the abdomen is elongate scutiform, subcaudate and deeply bifid behind; the anterior margin is bounded by eight regular conical mammoid tubercles, the last of which on each side forms the anterior of three equidistant tubercles placed upon a slight projecting process rising from the dorsal surface; the lateral margin, instead of curving gracefully inwards towards the caudal process, is slightly interrupted in the middle by a small tubercle or pustule, which gives it a decided angularity of outline; two other pustules are placed towards the side and at

* It is possible that *C. mitralis*, var. *turrigera*, of Thorell may represent highly developed examples of this species; the abdominal processes, however, are shorter in adult examples seen by me.

about the middle of the dorsal surface; the usual six impressed dots are present. Legs piceous, flattened and grooved above, cylindrical below, setose, relative length 1, 2, 4, 3; palpi piceous, flattened, setosè; falces blackish, very large, with double series of five teeth, of which the fourth in each series (placed at the inner angle) is decidedly the largest; maxillæ and labium piceous, with testaceous anterior borders, of the normal shape; pectoral shield heptagonal, sinuated in front; epigyne black. Length (including cephalothorax) 21 millim., of abdomen alone 18, of cephalothorax (including falces) from base $6\frac{1}{2}$, of falces 4, first pair of legs 26, second 23, third 16, fourth 21 millim.

Betsileo Country, Madagascar.

In the form of its legs this species seems to agree with Walckenaer's *Epeira imperialis*, which, unless it be taken from a dried and much distorted example, can hardly be the *E. sexcuspidata* of Fabricius.

The black dots on the borders of the abdomen probably represent the absent ocelli.

2. *Cærostris retorta*, sp. nov. (Pl. VI. figs. 6, 6 a, 6 b.)

♀. Cephalothorax mahogany-red, nearly square, laterally arched and dorsally shelving behind the caput; the latter more than twice as broad as long, clothed with whitish and yellowish pilosity; oculiferous tubercles very prominent, the central one rather higher behind than in front; the eyes small, forming a short trapezium; lateral tubercles slightly oblique, less so than in some of the species; the four tubercles of the hinder series very long, especially the lateral ones, which are like obtuse spines. Abdomen testaceous, with the anterior protuberances buff-coloured; anterior surface buff-coloured, crossed by four longitudinal brown lines, two from the bases of the protuberances and two central; sides and posterior border whitish; anterior margin with six tubercles in pairs, two others placed behind the first and last upon the base of the protuberances, the latter very long, reflexed, flattened in front, tapering, bifid at apex, and with two internal lateral acute tubercles, one near the base and the other beyond the middle; the anterior surface of the abdomen is regularly triplicate, and the lateral and posterior surfaces less regularly plicate; ventral surface, as usual, flattened; blackish piceous, with testaceous margins. Legs whitish, banded with brown; the tarsi and metatarsi flattened above and longitudinally grooved, otherwise cylindrical, setose, tapering; relative length 1, 2, 4, 3; palpi castaneous, clothed with yellowish bristles, flattened; falces castaneous, with blackish culm and movable claw,

with two series of four teeth along the anterior margins, the fourth at the angle slightly largest; maxillæ and labium blackish, with yellowish anterior borders; pectoral shield obtusely pentagonal, castaneous; coxæ and femora below castaneous. Length (including cephalothorax) 16 millim., of reflexed abdominal protuberances 7 millim.

East coast of Madagascar.

This singular species seems to me to approach *C. Keyserlingii* in structure; it is also somewhat allied to *C. avernalis*.

3. *Cærostris ecclesiigera*, sp. n.
(Pl. VI. figs. 1-1 c & 2-2 c.)

♂. Cephalothorax nearly square, castaneous, slightly expanded and obliquely depressed behind the caput; the latter twice as broad as long, densely clothed with appressed sericeous whitish pilosity; oculiferous tubercles very prominent, the central one forming a short trapezium a little broader than long; eyes rather small, black; lateral tubercles less prominent than the central one, slightly oblique, the eyes smaller; two prominent tubercles on the posterior margin of the caput, separated from each other by the central sutural impression and a little wider apart at their apices than the posterior central pair of eyes. Abdomen testaceous, pyriform, with longitudinally and transversely plicate anterior and concentrically plicate lateral and posterior surfaces; ascending towards the front, where it is crowned by a broad central conical tubercle, preceded on the anterior margin by two short tubercles; a rather short conical tubercle (considerably shorter than the central one) on each side and a little behind the central one; ventral surface nearly flat, greyish, with a brown spot in the region of the spinnerets. Legs castaneous, barred with whitish above, but the tarsi yellowish below, the upper surface flattened, longitudinally grooved, clothed with short whitish pilosity, below cylindrical, relative length 1, 2, 4, 3; palpi yellow, rather short, cylindrical, with enormous pyriform bulb, slightly convex and setose on the upper surface, inarched, but with an obtuse convex keel on the under surface; a small bead-like blackish pustule at the apex of the inferior margin, which is the true termination of the bulb; falces pale castaneous, the movable claw reddish with blackish base, the teeth I cannot determine; maxillæ, labium, and coxæ pale olivaceous; pectoral shield pentagonal, with a central patch of white hairs, but otherwise dark castaneous. Length (including cephalothorax) $5\frac{1}{2}$ millim.

♀. Cephalothorax nearly square, castaneous, slightly expanded and arched at the sides, and obliquely depressed on

the dorsal surface behind the caput, the latter twice as broad as long, clothed with short golden yellowish pilosity; oculiferous tubercles very prominent, the central one forming a short trapezium, a little broader than long, the eyes upon it rather small and about equal in size, black; lateral tubercles, as in the male, scarcely oblique, with the anterior eye decidedly larger than the posterior; one tubercle on each side and two mammoid tubercles, as in the male, upon the posterior margin, all black-tipped. Abdomen testaceous, pyriform, but enormously developed forwards, so as to conceal the anterior margin when looked at from above; anterior surface ornamented from the lateral margins of the central protuberance by a longitudinal whitish stripe, and in front of the protuberance by a Y-shaped marking of the same colour; the anterior margin runs over the front of this protuberance (which is very long and pyramidal), and which thus bears three out of eight small conical tubercles which bound the margin; on each side of, and a little behind, the central protuberance is a shorter and incurved one bearing on its outer edge two short but ill-defined tubercles, which widen its base; lateral and posterior surfaces concentrically plicate; ventral surface nearly flat, dark brown, with the margins and a pentagonal scutiform patch behind the epigyne (and dotted with six black dots in converging series of three each) ochreous. Legs castaneous with paler bands, flattened and clothed with fulvous bristles above, cylindrical, with more or less yellow tarsi below, relative length 1, 2, 4, 3; palpi castaneous, densely clothed with fulvous bristles, flattened, terminating in a short fine spine-like point; falces reddish castaneous, with the culm and movable claw blackish; teeth very small, four on each side; maxillæ and labium olivaceous, with yellowish anterior borders; coxæ olivaceous; pectoral shield pentagonal, piceous. Length (including cephalothorax) $9\frac{1}{2}$ millim., height of anterior central abdominal protuberance from posterior margin of caput 7 millim., from its anterior base 3 millim.

Central Madagascar.

A second male differs somewhat in form and very much in coloration, so that at present I hesitate to regard it as a variety of this species. *C. ecclesiigera* is evidently allied to *C. Wahlbergii* from Caffraria, yet exhibits too many discrepancies from Dr. Thorell's description to permit its identification with that species. It is also allied to *C. Petersii* of Karsch, though by no means so specialized a form as the latter.

4. *Cærostris Cowani*, sp. n. (Pl. VI. figs. 4, 4 a.)

♀. Cephalothorax dark mahogany-red, but with the caput

when dry silvery white, nearly square, but expanded laterally and depressed dorsally behind the caput; central oculiferous tubercle very prominent; eyes black, forming a short trapezium, the posterior pair being slightly larger than the anterior, a little wider apart than the latter, the two pairs separated from one another by an interval about equal to that between the two eyes of the anterior pair; lateral tubercle transverse, the eyes small, especially the posterior ones; a small lateral tubercle behind the eyes on each side, and two mammoid tubercles near the back of the caput. Abdomen elongate, pentagonal, conically excised at the back, golden brown, with a broad sericeous white belt spotted with brown occupying the anterior surface, extending into the anterior lateral processes, between which it is crossed by a streak of golden brown, behind which it contracts, is again crossed by a brown spot, and then terminates abruptly at about the centre of the dorsal surface; six conical tubercles, in pairs, arranged across the anterior surface, and a little behind them two long lateral, slightly compressed and obliquely ascending subcylindrical processes, one on each side, their apices feebly bituberculate; a small, very acute, central tubercle between and a little more forward than these two; two conical tubercles placed laterally halfway between the lateral processes and the extremity of the abdomen, their anterior half golden brown, and their posterior half white, and between and beyond these in the dorsal region a pale irregular band in continuation of the central longitudinal belt; ventral surface white, with a broad blackish central belt behind the black epigyne, bounded on each side by three conspicuous white spots; falces piceous, with a few silvery white hairs towards their bases; movable claw tipped with castaneous; six teeth on each side, of which the first and fourth pairs are much the largest. Legs and palpi above setose, somewhat flattened, but less so than in most species, castaneous red, marbled with stramineous; tarsi banded in the centre with white and tipped with blackish, below smooth shining reddish castaneous, cylindrical; relative length, as usual, 1, 2, 4, 3; maxillæ and labium blackish, with pale golden-brown fringes and pale olivaceous anterior borders; pectoral shield scutiform, truncated in front, imperfectly heptagonal. Length (including cephalothorax) 11 millim., of lateral anterior abdominal processes 2 millim.

East coast of Madagascar.

Of this beautiful though not very large species we have three female examples, all of which, when dry, exhibit precisely the same pattern and coloration. Another species

having the same general form, though differing wholly in pattern and in the number of mammoid tubercles across the front of the abdomen, was received with *C. Cowani*.

5. *Cærostris excellens*, sp. nov. (Pl. VI. figs. 5, 5 a.)

♀. Cephalothorax almost square, a little longer than broad, expanded and arched behind the caput, where it is abruptly and deeply excavated, its centre yellowish, shading into castaneous red in front and at the sides; caput nearly twice as broad as long, snow-white, yellowish in front, and with a black, longitudinal, impressed central dash behind the central oculiferous tubercle, the latter very prominent, forming a short trapezium, black in the centre and with the eyes almost wholly black, rather small, especially the anterior pair, between which and the posterior pair there is a shorter interval than in the preceding species; lateral tubercles prominent, slightly shorter behind than in front*, the eyes very small; two obtusely conical lateral brown tubercles (one on each side) behind the latter, and two widely separated similar tubercles near the back of the caput. Abdomen formed nearly as in the preceding species, but decidedly longer, sericeous whity brown, crossed in front by parallel series of minute black sigilla, the last series being placed behind the anterior arched series of tubercles; the latter, which form the anterior margin, are eight in number, the third and sixth small and slightly behind the line of the others, conical; behind the first and last there is on either side a deeply bifid obliquely ascending process; a little in front of and in the central line between the two lateral processes is a rather large conical tubercle; nearly halfway between the lateral processes and the base of the bifurcation of the posterior margin there is on each side a similar conical tubercle, and immediately in front of the bifurcate terminal process are two very obtuse tubercles; a black band runs down each side of the abdomen, across the two outside anterior tubercles and the lateral processes, to beyond the middle of the lateral surface; there is also a brown central longitudinal ovoid spot between the four ordinary black dots; behind this and including the posterior lateral tubercles are two transverse black dashes, behind which, again, are two slightly convergent black longitudinal bands, terminating in the bifid process, which is also black; ventral surface olivaceous, with a broad central black band, bounded on each side by three white spots. Legs with the femora bright reddish castaneous, the tibiæ and tarsi black banded with white, flat-

* The reverse is the case in most species.

tened and setose above, cylindrical below; palpi castaneous, with the terminal article black banded with white, flattened and setose; falces piceous, castaneous at the base and above, with the basal half densely covered with white pilosity; movable claw tipped with reddish castaneous; teeth apparently as in the preceding species; maxillæ and labium olivaceous, with whitish anterior borders; pectoral shield black, with a few appressed white hairs, heptagonal. Length (including cephalothorax) 11 millim., of lateral anterior abdominal processes $1\frac{1}{2}$ millim.

East coast of Madagascar.

EXPLANATION OF PLATE VI.

- Fig. 1.* *Cærostris ecclesiigera* ♂, natural size.
Fig. 1a. Abdomen (from behind), of twice the natural size.
Fig. 1b. Palpus.
Fig. 1c. Tarsal claws of first pair of legs.
Fig. 2. *Cærostris ecclesiigera* ♀, natural size.
Fig. 2a. Abdomen (from behind), natural size; *2 b*, profile.
Fig. 2c. Tarsal claws of first pair of legs.
Fig. 3. *Cærostris extrusa* ♀, natural size.
Fig. 3a. Caput, showing eyes and tubercles.
Fig. 3b. Tarsal claws of first pair of legs.
Fig. 4. *Cærostris Cowani* ♀, natural size.
Fig. 4a. Tarsal claws of first pair of legs.
Fig. 5. *Cærostris excellens* ♀, natural size.
Fig. 5a. Tarsal claws of first pair of legs.
Fig. 6. *Cærostris retorta* ♀, natural size.
Fig. 6a. Profile view.
Fig. 6b. Tarsal claws of first pair of legs.

XII.—*New Sponges, Observations on old ones, and a proposed New Group.* By H. J. CARTER, F.R.S. &c.

Order III. PSAMMONEMATA.

Fam. 1. *Bibulida.*

Group 1. *EUSPONGIOSA.*

Euspongia compacta, n. sp.

Thin, horizontal or vertical, extending concentrically from a pedunculated or contracted irregular base, terminating at the circumference in an irregularly-fissured round margin. Consistence that of very compact felt. Colour dark fawn when fresh, light fawn or grey after exposure when dry; der-